

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during April, 1884, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic ocean during the month are also given and their approximate paths shown on chart i.

April has not been especially noted for unusual meteorological phenomena.

Local storms were of less severity and frequency than those of the preceding months.

The high stage of water in the lower Mississippi river has continued, and at the close of the month the river was above the danger-line in the vicinity of Vicksburg, Mississippi, and at points southward.

The month was colder than the average over nearly the whole country, the exceptions being New England, northern plateau, and north Pacific coast region, where it was slightly warmer than usual. The regions of greatest departure below the normal temperature were the middle slope, southern plateau, and upper Mississippi valley, where the deficiencies varied from 3° to 4°.

The monthly precipitation was excessive in New England, the upper lake region, and from the lower Missouri and west Gulf states to the Pacific coast. It was less than the average over the region from Idaho to Minnesota, in the upper Mississippi valley, and from the lower lake region and middle Atlantic states southward to the Gulf.

The temperature and rainfall observations in the cotton districts were resumed April 1st. A table of means for April, 1884, and for the same month of the two preceding years has been prepared and is published in this REVIEW.

The following changes have been made in the numbers of the charts accompanying this REVIEW: chart ii. (ocean storm-tracks and limits of ice) is discontinued, and a new chart, numbered i., is substituted, showing the tracks of low-barometer areas, together with the ocean storm tracks and the limit of the ice region.

The charts heretofore numbered iii. (isobars, isotherms, and winds) and iv. (precipitation) are changed to numbers ii. and iii., respectively.

In the preparation of this REVIEW the following data, received up to May 20th, 1884, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-two Signal Service stations and fifteen Canadian stations, as telegraphed to this office; one hundred and sixty monthly

journals, and one hundred and fifty-four monthly means from the former, and fifteen monthly means from the latter; two hundred and sixty-three monthly registers from voluntary observers; fifty-one monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Georgia, Illinois, Indiana, Louisiana, Missouri, Nebraska, and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for April, 1884, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart ii. An area of barometric maxima extends from central Montana to Lake Michigan, where the mean pressures range from 30.0 to 30.07. Along the western coast of Florida and on the Pacific coast the barometric means vary from 30.0 to 30.03. The mean pressure of the month is least in New England and the Canadian maritime provinces, where the means vary from 29.75 to 29.85. Over an area including parts of Colorado, New Mexico, Arizona, and Utah the mean pressure is below 29.9; elsewhere the means vary from 29.9 to 29.99.

The mean pressure for April compared with that for the preceding month shows an increase ranging from .01 to .03 in the north and middle Pacific coast regions and in northern Minnesota. In all other districts a decrease occurs. West of the Mississippi river the deficiencies vary from .01 to .08, while to the eastward they increase to from .10 to .13 from the lower lake region to the south Atlantic coast, and to from .15 to .18 in the middle Atlantic states and New England.

DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

In the northern and middle slopes, upper Missouri valley, Minnesota, and over Lake Superior the mean pressure for April varies from .01 to .04 above the normal. In all other districts it is below the normal, the deficiencies being greatest on the Atlantic coast, where they vary from .10 to .15. On the Pacific coast, in southern Arizona and in the east Gulf states the deficiencies range from .05 to .08; in the upper Mississippi and lower Missouri valleys, southern slope and west Gulf states they vary from .01 to .04.

BAROMETRIC RANGES.

The barometric ranges were greatest in the upper lake region and in Maine, where they exceeded 1.25; they were least in southern California, Arizona, and Florida, where they were less than .50. The extreme ranges are: smallest, .33 and .36 at Forts Grant and Apache, Arizona, respectively; greatest, 1.35 at Eastport, Maine, and 1.40 at Alpena, Michigan.

In the several districts the barometric ranges varied as follows:

New England.—From 1.05 at New Haven, Connecticut, to 1.35 at Eastport, Maine.